ter will take up no more room then 45. of the fresh. Or reciprocally 45 pints of salt-water weigh as much as 46 of fresh.

But I found the proportion of Brine to fresh Water to be near 13 to 12: Supposing therefore G H M to represent the Sea, and F I the height of the Mountain above the Superficies of the Sea, F M a Cavern in the Earth, beginning at the bottom of the Sea, and terminated at the top of the Mountain, L M the Sand at the bottom, through which the Water is as it were strained, so as that the fresher parts are only permitted to transude, and the saline kept back; if therefore the proportion of G M to F M be as 45 to 46, then may the Cylinder of Salt-water G M make the Cylinder of Fresh-water to rise as high as E, and to run over at N. I cannot here stand to examine or confute their Opinion, who make the depth of the Sea, below its Superficies, to be no more perpendicularly measured then the height of the Mountains above it: 'Tis enough for me to say, there is no one of those that have asserted it, have experimentally known the perpendicular of either; nor shall I here determine, whether there may not be many other causes of the separation of the fresh water from the salt, as perhaps some parts of the Earth through which it is to pass, may contain a Salt, that mixing and uniting with the Sea-salt, may precipitate it; much after the same manner as the *Alkalizate* and *Acid Salts* mix and precipitate each other in the preparation of *Tartarum Vitriolatum*. I know not also whether the exceeding cold (that must necessarily be) at the bottom of the Water, may not help towards this separation, for we find, that warm Water is able to dissolve and contain more Salt, then the same cold; insomuch that Brines strongly impregnated by heat, if let cool, do suffer much of their Salt to subside and crystallize about the bottom and sides. I know not also whether the exceeding pressure of the parts of the Water one against another, may not keep the Salt from descending to the very bottom, as finding little or no room to insert it self between those parts, protruded so violently together, or else squeeze it upwads into the superiour parts of the Sea, where it may more easily obtain room for it self, amongst the parts of the Water, by reason that there is more heat and less pressure. To this Opinion I was somewhat the more induced by the relations I have met with in *Geographical Writers*, of drawing fresh Water from the bottom of the Sea, which is salt above. I cannot now stand to examine, whether this natural perpetual motion may not artificially be imitated: Nor can I stand to answer the Objections which may be made against this my Supposition: As, First, How it comes to pass, that there are sometimes salt Springs much higher then the Superficies of the Water? And, Secondly, Why Springs do not run faster and slower, according to the varying height made of the Cylinder of Sea-water, by the ebbing and flowing of the Sea?

As to the First, In short, I say, the fresh Water may receive again a saline Tincture near the Superficies of the Earth, by passing through some salt *Mines*, or else many of the saline parts of the Sea may be kept back, though not all.

And

And as to the Second, The same *Spring* may be fed and supplyed by divers *Caverns*, coming from very far distant parts of the *Sea*, so as that it may in one place be *high*, in another *low water*; and so by that means the *Spring* may be equally supply'd at all times. Or else the *Cavern* may be so straight and narrow, that the water not having so ready and free passage through it, cannot upon so short and quick mutations of pressure, be able to produce any sensible effect at such a distance. Besides that, to confirm this *hypothesis*, there are many *Examples* found in *Natural Historians*, of *Springs* that do ebb and flow like the Sea: As particularly, those recorded by the Learned *Camden*, and after him by *Speed*, to be found in this *Island*: One of which, they relate to be on the Top of a Mountain, by the small Village *Kilken* in *Flintshire*, *Maris æmulus qui statis temporibus suas evomit & resorbet Aquas*; Which at certain times riseth and falleth after the manner of the Sea. A Second in *Caermardenshire*, near *Caermarden*, at a place called *Cantred Bichan*; *Qui (ut scribit Giraldus) naturali die bis undis deficiens, & toties exuberans, marinas imitatur instabilitates*; That twice in four and twenty hours ebbing and flowing, resembleth the unstable motions of the Sea. The *Phænomena* of which two may be easily made out, by supposing the *Cavern*, by which they are fed, to arise from the bottom of the next Sea. A Third, is a Well upon the River *Ogmore* in *Glamorganshire*, and near unto *Newton*, of which *Camden* relates himself to be certified, by a Letter from a Learned Friend of his that observed it, *Fons abest hinc, &c.* The Letter is a little too long to be inserted, but the substance is this; That this Well ebbs and flows quite contrary to the flowing and ebbing of the Sea in those parts: for 'tis almost empty at Full Sea, but full at Low water. This may happen from the Channel by which it is supplied, which may come from the bottom of a Sea very remote from those parts, and where the Tides are much differing from those of the approximate shores. A Fourth, lies in *Westmorland*, near the River *Loder*; *Qui instar Euripi sæpius in die reciprocantibus undis fluit & refluit*, which ebbs and flows many times a day. This may proceed from its being supplyed from many Channels, coming from several parts of the Sea, lying sufficiently distant asunder to have the times of High-water differing enough one from the other; so as that whensoever it shall be High water over any of those places, where these Channels begin, it shall likewise be so in the Well; but this is but a supposition.

A Seventh *Query* was, Whether the *dissolution* or mixing of several bodies, whether fluid or solid, with saline or other Liquors, might not partly be attributed to this Principle of the congruity of those bodies and their dissolvents? As of Salt in Water, Metals in several *Menstruums*, Unctuous Gums in Oyls, the mixing of Wine and Water, *&c.* And whether *precipitation* be not partly made from the same Principle of Incongruity? I say *partly*, because there are in some Dissolutions, some other Causes concurrent.

I shall lastly make a much more seemingly strange and unlikely *Query*; and that is, Whether this Principle, well examined and explained, may

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